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ABSTRACT OF THE DISCLOSURE

Local mobility within a subnet is supported by classifying wireless base stations, and the routers used to forward packets to those base stations, within defined domains. Domains are defined to incorporate a subnet having a plurality of base stations. Base stations are used by mobile devices to attach to the wired portion of a packet-based network, such as the Internet, and exchange packets thereover with a correspondent node. Packets sent from the correspondent node to the mobile device have a packet destination address corresponding to the mobile device. The mobile device retains this address for the duration of time it is powered up and attached to the Internet via any base station within a given domain. Host-based routing is utilized to update routing table entries corresponding to the mobile device at routers incorporated within a single domain. The routing table entries are established and updated via path setup schemes to convey packets destined for the mobile device along the proper established path through the domain routers and base stations, regardless of the domain base station through which the mobile device is attached. Path setup schemes utilize power up, refresh, and handoff path setup messages to maintain the proper relationship between router interfaces and packet addresses for routing table entries.